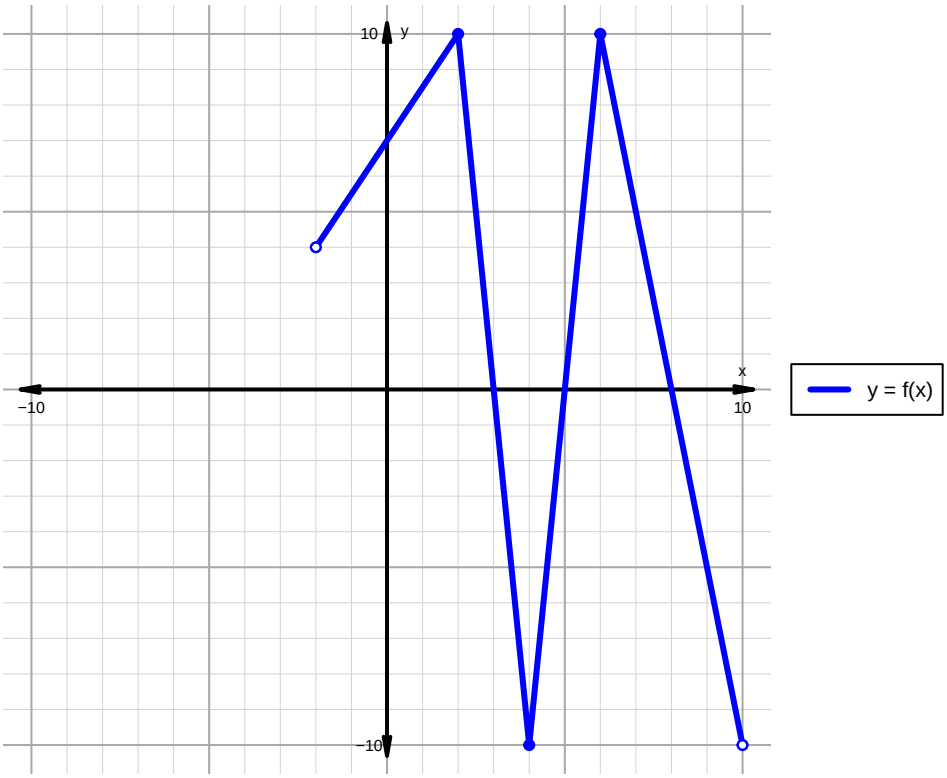
Name: Date:

Intervals, Transformations, and Slope Solution (version 41)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-2, 3) \cup (5, 8)$
Negative	$(3, 5) \cup (8, 10)$
Increasing	$(-2, 2) \cup (4, 6)$
Decreasing	$(2, 4) \cup (6, 10)$
Domain	$(-2, 10)$
Range	$(-10, 10)$

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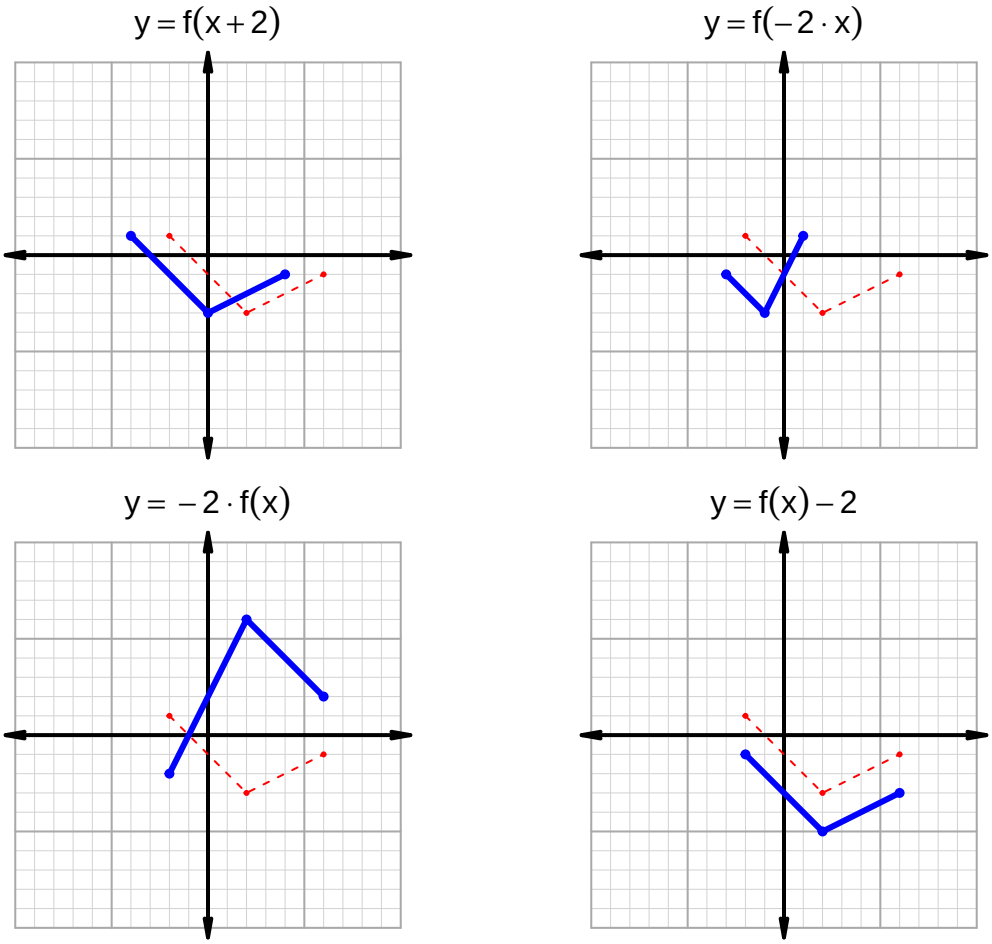
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 13$ and $x_2 = 48$. Express your answer as a reduced fraction.

x	$g(x)$
13	26
26	48
46	13
48	46

$\frac{g(48)-g(13)}{48-13} = \frac{46-26}{48-13} = \frac{20}{35}$

The greatest common factor of 20 and 35 is 5. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{4}{7}$$